ELSEVIER

Mechanisms of Development 82 (1999) 223–224

# Author index

## Volume 82 (1999)

Adam, G., see Lin, W.-L., 195
Alvarez-Bolado, G., see Schwarz, M., 29
Audibert, A., Simonelig, M., The *suppressor of forked* gene of *Drosophila*, which encodes a homologue of human CstF-77K involved in mRNA 3′-end processing, is required for progression through mitosis, 41

Benes, J.J., see Sedkov, Y., 171
Berger, J.R., see Sedkov, Y., 171
Bobola, N., Briata, P., Ilengo, C., Rosatto, N., Craft, C., Corte, G., Ravazzolo, R., OTX2 homeodomain protein binds a DNA element necessary for interphotoreceptor retinoid binding protein gene expression, 165
Bonkowsky, J.L., Thomas, J.B., Cell-type specific modular regulation of *derailed* in the *Drosophila* nervous system, 181
Briata, P., see Bobola, N., 165
Burton, R.D., see Gaunt, S.J., 109
Busslinger, M., see Schwarz, M., 29

Cassetta, L.A., see Joseph, E.M., 191
Compaan, B., see de Roos, K., 205
Corte, G., see Bobola, N., 165
Craft, C., see Bobola, N., 165
Cutforth, T., Gaul, U., A methionine aminopeptidase and putative regulator of translation initiation is required for cell growth and patterning in *Drosophila*, 23

Da Lage, J.-L., see Richards, G., 131
de la Rosa, E.J., see Vega-Núñez, E., 199
de Pablo, F., see Vega-Núñez, E., 199
de Roos, K., Sonneveld, E., Compaan, B., ten Berge, D., Durston, A.J., van der Saag, P.T., Expression of retinoic acid 4-hydroxylase (CYP26) during mouse and *Xenopus laevis* embryogenesis, 205
Dean, W., see Gaunt, S.J., 109
Dräger, U.C., see McCaffery, P., 119
Dressler, G., see Schwarz, M., 29
Duprez, D., Lapointe, F., Edom-Vovard, F., Kostakopoulou, K., Robson, L., Sonic Hedgehog (SHH) specifies muscle pattern at tissue and cellular chick level, in the chick limb bud, 151
Durston, A.J., see de Roos, K., 205

Edom-Vovard, F., see Duprez, D., 151

Gülland, S., see Reifegerste, R., 141
Gaul, U., see Cutforth, T., 23
Gaunt, S.J., Dean, W., Sang, H., Burton, R.D., Evidence that Hoxa expression domains are evolutionarily transposed in spinal ganglia, and are established by forward spreading in paraxial mesoderm, 109
Gruss, P., see Schwarz, M., 29

Hancock, S., see Vasiliauskas, D., 79
He, X.-B., see Lin, W.-L., 195
Hodgkin, J., see Woollard, A., 95
Huet, F., see Richards, G., 131
Hyde, C.E., Old, R.W., Expression pattern of a novel hyaluronidase during *Xenopus* embryogenesis, 213

Ilengo, C., see Bobola, N., 165

Jones, R.S., see Sedkov, Y., 171
Joseph, E.M., Cassetta, L.A., *Mespo*: a novel basic helix-loop-helix gene expressed in the presomitic mesoderm and posterior tailbud of *Xenopus* embryos, 191

Kostakopoulou, K., see Duprez, D., 151

Lüdemann, A., see Reifegerste, R., 141
Lapointe, F., see Duprez, D., 151
Li, Y.-M., see Lin, W.-L., 195
Lin, W.-L., He, X.-B., Svensson, K., Adam, G., Li, Y.-M., Tang, T.-W., Paldi, A., Pfeifer, S., Ohlsson, R., The genotype and epigenotype synergize to diversify the spatial pattern of expression of the imprinted *H19* gene, 195

Müller, U., Ten years of gene targeting: targeted mouse mutants, from vector design to phenotype analysis, 3
Maruyama, Y.K., see Shoguchi, E., 185
Mazo, A., see Sedkov, Y., 171
McCaffery, P., Wagner, E., O'Neil, J., Petkovich, M., Dräger, U.C., Dorsal and ventral retinal territories defined by retinoic acid synthesis, break-down and nuclear receptor expression, 119

Nikaido, M., Tada, M., Ueno, N., Restricted expression of the receptor serine/threonine kinase BMPR-IB in zebrafish, 219

Ohlsson, R., see Lin, W.-L., 195
Old, R.W., see Hyde, C.E., 213
O'Neil, J., see McCaffery, P., 119

Paldi, A., see Lin, W.-L., 195
Peña-Melián, A., see Vega-Núñez, E., 199
Petkovich, M., see McCaffery, P., 119
Pfeifer, S., see Lin, W.-L., 195

Ravazzolo, R., see Bobola, N., 165
Reifegerste, R., Schreiber, J., Gülland, S., Lüdemann, A., Wegner, M., mGCMa is a murine transcription factor that overrides cell fate decisions in *Drosophila*, 141
Richards, G., Da Lage, J-L., Huet, F., Ruiz, C., The acquisition of competence to respond to ecdysone in *Drosophila* is transcript specific, 131
Riker, K.M., see Sedkov, Y., 171
Robson, L., see Duprez, D., 151
Rosatto, N., see Bobola, N., 165

0925-4773/99/$ - see front matter © 1999 Elsevier Science Ireland Ltd. All rights reserved.
PII: S0925-4773(99)00062-3

Ruiz, C., see Richards, G., 131

Saiga, H., see Wada, S., 67
Sang, H., see Gaunt, S.J., 109
Satoh, N., see Shoguchi, E., 185
Schreiber, J., see Reifegerste, R., 141
Schwarz, M., Alvarez-Bolado, G., Dressler, G., Urbánek, P., Busslinger, M., Gruss, P., Pax2/5 and Pax6 subdivide the early neural tube into three domains, 29
Sedkov, Y., Benes, J.J., Berger, J.R., Riker, K.M., Tillib, S., Jones, R.S., Mazo, A., Molecular genetic analysis of the *Drosophila trithorax-related* gene which encodes a novel SET domain protein, 171
Shoguchi, E., Satoh, N., Maruyama, Y.K., Pattern of *Brachyury* gene expression in starfish embryos resembles that of hemichordate embryos but not of sea urchin embryos, 185
Simonelig, M., see Audibert, A., 41
Sonneveld, E., see de Roos, K., 205
Stern, C.D., see Streit, A., 51
Stern, C.D., see Vasiliauskas, D., 79
Streit, A., Stern, C.D., Establishment and maintenance of the border of the neural plate in the chick: involvement of FGF and BMP activity, 51
Svensson, K., see Lin, W.-L., 195

Tada, M., see Nikaido, M., 219
Tang, T.-W., see Lin, W.-L., 195
ten Berge, D., see de Roos, K., 205
Thomas, J.B., see Bonkowsky, J.L., 181
Tillib, S., see Sedkov, Y., 171

Ueno, N., see Nikaido, M., 219
Urbánek, P., see Schwarz, M., 29

van der Saag, P.T., see de Roos, K., 205
Vasiliauskas, D., Hancock, S., Stern, C.D., SWiP-1: novel SOCS box containing WD-protein regulated by signalling centres and by Shh during development, 79
Vega-Núñez, E., Peña-Melián, A., de la Rosa, E.J., de Pablo, F., Dynamic restricted expression of the chaperone Hsc70 in early chick development, 199

Wada, S., Saiga, H., Vegetal cell fate specification and anterior neuroectoderm formation by *Hroth*, the ascidian homologue of *orthodenticle/otx*, 67
Wagner, E., see McCaffery, P., 119
Wegner, M., see Reifegerste, R., 141
Woollard, A., Hodgkin, J., *Stu-71air-2* is a *C. elegans aurora* homologue essential for chromosome segregation during embryonic and post-embryonic development, 95

ELSEVIER

Mechanisms of Development 81 (1999) 225–231

# Subject index

## Volume 82 (1999)

**AGM-1470**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2α; p67; zf30C; MetAP-2; MAP2; GCN2; PKR; HRI; Eukaryotic initiation factor; $dTAF_{II}30\beta$; Fumagillin; TNP-470; Ovalicin; MetAP; Phosphorylation **82** 23

**AHD2**; Dorso-ventral retina axis; Eye morphogenesis; Retina; P450-linked oxidase; CYP26; Aldehyde dehydrogenase; Retinaldehyde; Retinoic acid; Mouse embryo **82** 119

**Aldehyde dehydrogenase**; Dorso-ventral retina axis; Eye morphogenesis; Retina; P450-linked oxidase; CYP26; Retinaldehyde; AHD2; Retinoic acid; Mouse embryo **82** 119

**ALL-1**; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALR; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

**Allele-specific**; Imprinting; Placenta; Trophoblast; In situ hybridization; Alternative splicing **82** 195

**ALR**; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

**Alternative splicing**; Imprinting; Placenta; Trophoblast; In situ hybridization; Allele-specific **82** 195

**Anterior neuroectoderm**; Ascidian; *otx*; Mesoendoderm; Specification; Induction **82** 67

***ApBra***; Starfish embryos; *Brachyury* gene; Expression pattern; Embryos and larvae; Echinoderms and hemichordates **82** 185

**Ascidian**; *otx*; Mesoendoderm; Anterior neuroectoderm; Specification; Induction **82** 67

**Basic helix-loop-helix transcription factor**; Paraxial mesoderm; Segmentation; *Xenopus laevis* **82** 191

**Bicoid**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Eye; Retina; Photoreceptors; Development **82** 165

**BMP receptor**; Zebrafish; BMP; Somite; CNS **82** 219

**BMP**; Zebrafish; BMP receptor; Somite; CNS **82** 219

**BMP-4**; Noggin; Chordin; FGF-8; Neural crest; Neural plate; Hensen's node; Organizer; msx-1 **82** 51

***Brachyury* gene**; Starfish embryos; *ApBra*; Expression pattern; Embryos and larvae; Echinoderms and hemichordates **82** 185

**Brain regionalization**; Pax; Posterior commissure; Midbrain **82** 29

**Branchial arches**; Cartilage; CYP26; Expression; In situ; Mesoderm; Mouse; Olfactory placode; Retina; Retinoid; Uterine crypt; *Xenopus*; P450 **82** 205

**Cartilage**; Branchial arches; CYP26; Expression; In situ; Mesoderm; Mouse; Olfactory placode; Retina; Retinoid; Uterine crypt; *Xenopus*; P450 **82** 205

***C. elegans***; Cell cycle; Chromosome segregation; Serine-threonine kinase **82** 95

**Cell cycle**; *C. elegans*; Chromosome segregation; Serine-threonine kinase **82** 95

**Cell cycle**; Cleavage stimulation factor; *Drosophila*; Mitosis; mRNA processing; Polyadenylation **82** 41

**Chaperone**; Chick embryo; Primitive streak; Ectoderm; Mesoderm; Endoderm; Neural fold; Neural tube; Neural crest; Somites; Gastrulation; Neurulation; Heat shock protein; Hsc70 **82** 199

**Chick embryo**; Primitive streak; Ectoderm; Mesoderm; Endoderm; Neural fold; Neural tube; Neural crest; Somites; Gastrulation; Neurulation; Heat shock protein; Hsc70; Chaperone **82** 199

**Chick embryo**; Primitive streak; Ectoderm; Mesoderm; Endoderm; Neural fold; Neural tube; Neural crest; Somites; Gastrulation; Neurulation; Heat shock protein; Hsc70; Chaperone **82** 199

**Chick embryo**; SOCS box; WD proteins; SwiP; Sonic hedgehog; Somites; Limb buds; Feather buds; Gut; Notochord **82** 79

**Chick**; Shh; Limb bud; Muscle patterning **82** 167

**Chordin**; BMP-4; Noggin; FGF-8; Neural crest; Neural plate; Hensen's node; Organizer; msx-1 **82** 51

**Chromatin**; *Drosophila*; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

0925-4773/99/$ - see front matter © 1999 Elsevier Science Ireland Ltd. All rights reserved.
PII: S0925-4773(99)00063-5

**Chromosomal proteins**; *Drosophila*; Chromatin; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

**Chromosome segregation**; *C. elegans*; Cell cycle; Serine-threonine kinase **82** 95

**Cleavage stimulation factor**; Cell cycle; *Drosophila*; Mitosis; mRNA processing; Polyadenylation **82** 41

**CNS**; Zebrafish; BMP; BMP receptor; Somite **82** 219

**Competence**; Ecdysone; Nuclear receptors; *Drosophila* **82** 131

**CRX**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**CYP26**; Branchial arches; Cartilage; Expression; In situ; Mesoderm; Mouse; Olfactory placode; Retina; Retinoid; Uterine crypt; *Xenopus*; P450 **82** 205

**CYP26**; Dorso-ventral retina axis; Eye morphogenesis; Retina; P450-linked oxidase; Aldehyde dehydrogenase; Retinaldehyde; AHD2; Retinoic acid; Mouse embryo **82** 119

***Derailed***; *Drosophila*; Enhancers; Receptor tyrosine kinase **82** 181

**Determination**; *Glial Cells Missing*; Glia; Transcription; Neural development **82** 141

**Development**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors **82** 165

**DG42**; Hyaluronan; Hyaluronidase; Glycosaminoglycan; Hyaluronan synthase; Xenopus; XEH1; Embryo; In situ hybridization **82** 213

**Dorso-ventral retina axis**; Eye morphogenesis; Retina; P450-linked oxidase; CYP26; Aldehyde dehydrogenase; Retinaldehyde; AHD2; Retinoic acid; Mouse embryo **82** 119

***Drosophila***; Cell cycle; Cleavage stimulation factor; Mitosis; mRNA processing; Polyadenylation **82** 41

***Drosophila***; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

***Drosophila***; Competence; Ecdysone; Nuclear receptors **82** 131

***Drosophila***; Enhancers; *Derailed*; Receptor tyrosine kinase **82** 181

***Drosophila***; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

***Drosophila melanogaster***; Methionine aminopeptidase; eIF2$\alpha$; p67; zf30C; MetAP-2; MAP2; GCN2; PKR; HRI; Eukaryotic initiation factor; dTAF$_{II}$30$\beta$; Fumagillin; TNP-470; Ovalicin; AGM-1470; MetAP; Phosphorylation **82** 23

**dTAF$_{II}$30$\beta$**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2$\alpha$; p67; zf30C; MetAP-2; MAP2; GCN2; PKR; HRI; Eukaryotic initiation factor; Fumagillin; TNP-470; Ovalicin; AGM-1470; MetAP; Phosphorylation **82** 23

**Ecdysone**; Competence; Nuclear receptors; *Drosophila* **82** 131

**Echinoderms and hemichordates**; Starfish embryos; *Brachyury* gene; *ApBra*; Expression pattern; Embryos and larvae **82** 185

**Ectoderm**; Chick embryo; Primitive streak; Mesoderm; Endoderm; Neural fold; Neural tube; Neural crest; Somites; Gastrulation; Neurulation; Heat shock protein; Hsc70; Chaperone **82** 199

**eIF2$\alpha$**; *Drosophila melanogaster*; Methionine aminopeptidase; p67; zf30C; MetAP-2; MAP2; GCN2; PKR; HRI; Eukaryotic initiation factor; dTAF$_{II}$30$\beta$; Fumagillin; TNP-470; Ovalicin; AGM-1470; MetAP; Phosphorylation **82** 23

**Embryo**; Hyaluronan; Hyaluronidase; Glycosaminoglycan; DG42; Hyaluronan synthase; Xenopus; XEH1; In situ hybridization **82** 213

**Embryonic expression**; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; SET domain; PHD domain; Transcript; Larval expression; Mutagenesis **82** 171

**Embryos and larvae**; Starfish embryos; *Brachyury* gene; *ApBra*; Expression pattern; Echinoderms and hemichordates **82** 185

**Endoderm**; Chick embryo; Primitive streak; Ectoderm; Mesoderm; Neural fold; Neural tube; Neural crest; Somites; Gastrulation; Neurulation; Heat shock protein; Hsc70; Chaperone **82** 199

**Enhancers**; *Drosophila*; *Derailed*; Receptor tyrosine kinase **82** 181

**Eukaryotic initiation factor**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2$\alpha$; p67; zf30C; MetAP-2; MAP2; GCN2; PKR; HRI; dTAF$_{II}$30$\beta$; Fumagillin; TNP-470; Ovalicin; AGM-1470; MetAP; Phosphorylation **82** 171

**Expression pattern**; Starfish embryos; *Brachyury* gene; *ApBra*; Embryos and larvae; Echinoderms and hemichordates **82** 185

**Expression**; Branchial arches; Cartilage; CYP26; In situ; Mesoderm; Mouse; Olfactory placode; Retina; Retinoid; Uterine crypt; *Xenopus*; P450 **82** 205

**Eye morphogenesis**; Dorso-ventral retina axis; Retina; P450-linked oxidase; CYP26; Aldehyde dehydrogenase; Retinaldehyde; AHD2; Retinoic acid; Mouse embryo **82** 119

**Eye**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Retina; Photoreceptors; Development **82** 165

**Feather buds**; SOCS box; WD proteins; SwiP; Sonic hedgehog; Somites; Limb buds; Gut; Chick embryo; Notochord **82** 79

**FGF-8**; BMP-4; Noggin; Chordin; Neural crest; Neural plate; Hensen's node; Organizer; msx-1 **82** 51

**Fumagillin**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2$\alpha$; p67; zf30C; MetAP-2; MAP2; GCN2; PKR; HRI; Eukaryotic initiation factor; dTAF$_{II}$30$\beta$; TNP-470; Ovalicin; AGM-1470; MetAP; Phosphorylation **82** 23

**Gastrulation**; Chick embryo; Primitive streak; Ectoderm; Mesoderm; Endoderm; Neural fold; Neural tube; Neural crest; Somites; Neurulation; Heat shock protein; Hsc70; Chaperone **82** 199

**GCN2**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2$\alpha$; p67; zf30C; MetAP-2; MAP2; PKR; HRI; Eukaryotic initiation factor; dTAF$_{II}$30$\beta$; Fumagillin; TNP-470; Ovalicin; AGM-1470; MetAP; Phosphorylation **82** 23

**Gel retardation**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**Gene targeting**; Homologous recombination; Knockout; Genetic background; Modifier loci; Inducible gene expression **82** 3

**Gene**; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**Genetic background**; Homologous recombination; Gene targeting; Knockout; Modifier loci; Inducible gene expression **82** 3

**Glia**; *Glial Cells Missing*; Transcription; Determination; Neural development **82** 141

***Glial Cells Missing***; Glia; Transcription; Determination; Neural development **82** 141

**Glycosaminoglycan**; Hyaluronan; Hyaluronidase; DG42; Hyaluronan synthase; Xenopus; XEH1; Embryo; In situ hybridization **82** 213

**Gut**; SOCS box; WD proteins; SwiP; Sonic hedgehog; Somites; Limb buds; Feather buds; Chick embryo; Notochord **82** 75

**Heat shock protein**; Chick embryo; Primitive streak; Ectoderm; Mesoderm; Endoderm; Neural fold; Neural tube; Neural crest; Somites; Gastrulation; Neurulation; Hsc70; Chaperone **82** 199

**HeLa**; Gene; Promoter; Transcriptional regulation; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**Hensen's node**; BMP-4; Noggin; Chordin; FGF-8; Neural crest; Neural plate; Organizer; msx-1 **82** 51

**Homeodomain**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**Homologous recombination**; Gene targeting; Knockout; Genetic background; Modifier loci; Inducible gene expression **82** 3

**Hoxa gene expression**; Transposition; Spinal ganglia; Paraxial mesoderm **82** 109

**HRI**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2$\alpha$; p67; zf30C; MetAP-2; MAP2; GCN2; PKR; Eukaryotic initiation factor; dTAF$_{II}$30$\beta$; Fumagillin; TNP-470; Ovalicin; AGM-1470; MetAP; Phosphorylation **82** 23

**Hsc70**; Chick embryo; Primitive streak; Ectoderm; Mesoderm; Endoderm; Neural fold; Neural tube; Neural crest; Somites; Gastrulation; Neurulation; Heat shock protein; Chaperone **82** 199

**Human**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**Hyaluronan synthase**; Hyaluronan; Hyaluronidase; Glycosaminoglycan; DG42; Xenopus; XEH1; Embryo; In situ hybridization **82** 213

**Hyaluronan**; Hyaluronidase; Glycosaminoglycan; DG42; Hyaluronan synthase; Xenopus; XEH1; Embryo; In situ hybridization **82** 213

**Hyaluronidase**; Hyaluronan; Glycosaminoglycan; DG42; Hyaluronan synthase; Xenopus; XEH1; Embryo; In situ hybridization **82** 213

**Immunohistochemistry**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**Imprinting**; Placenta; Trophoblast; In situ hybridization; Allele-specific; Alternative splicing **82** 195

**In situ hybridization**; Hyaluronan; Hyaluronidase; Glycosaminoglycan; DG42; Hyaluronan synthase; Xenopus; XEH1; Embryo **82** 213

**In situ hybridization**; Imprinting; Placenta; Trophoblast; Allele-specific; Alternative splicing **82** 195

**In situ**; Branchial arches; Cartilage; CYP26; Expression; Mesoderm; Mouse; Olfactory placode; Retina; Retinoid; Uterine crypt; *Xenopus*; P450 **82** 205

**Inducible gene expression**; Homologous recombination; Gene targeting; Knockout; Genetic background; Modifier loci **82** 3

**Induction**; Ascidian; *otx*; Mesoendoderm; Anterior neuroectoderm; Specification **82** 67

**Interphotoreceptor retinoid binding protein**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**IRBP**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**Knockout**; Homologous recombination; Gene targeting; Genetic background; Modifier loci; Inducible gene expression **82** 3

**Larval expression**; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Mutagenesis **82** 171

**Limb bud**; Shh; Chick; Muscle patterning **82** 151

**Limb buds**; SOCS box; WD proteins; SwiP; Sonic hedgehog; Somites; Feather buds; Gut; Chick embryo; Notochord **82** 79

**Maintenance**; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

**MAP2**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2$\alpha$; p67; zf30C; MetAP-2; GCN2; PKR; HRI; Eukaryotic initiation factor; dTAF$_{II}$30$\beta$; Fumagillin; TNP-470; Ovalicin; AGM-1470; MetAP; Phosphorylation **82** 23

**Mesoderm**; Branchial arches; Cartilage; CYP26; Expression; In situ; Mouse; Olfactory placode; Retina; Retinoid; Uterine crypt; *Xenopus*; P450 **82** 205

**Mesoderm**; Chick embryo; Primitive streak; Ectoderm; Endoderm; Neural fold; Neural tube; Neural crest; Somites; Gastrulation; Neurulation; Heat shock protein; Hsc70; Chaperone **82** 199

**Mesoendoderm**; Ascidian; *otx*; Anterior neuroectoderm; Specification; Induction **82** 61

**MetAP**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2$\alpha$; p67; zf30C; MetAP-2; MAP2; GCN2; PKR; HRI; Eukaryotic initiation factor; dTAF$_{II}$30$\beta$; Fumagillin; TNP-470; Ovalicin; AGM-1470; Phosphorylation **82** 23

**MetAP-2**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2$\alpha$; p67; zf30C; MAP2; GCN2; PKR; HRI; Eukaryotic initiation factor; dTAF$_{II}$30$\beta$; Fumagillin; TNP-470; Ovalicin; AGM-1470; MetAP; Phosphorylation **82** 23

**Methionine aminopeptidase**; *Drosophila melanogaster*; eIF2$\alpha$; p67; zf30C; MetAP-2; MAP2; GCN2; PKR; HRI; Eukaryotic initiation factor; dTAF$_{II}$30$\beta$; Fumagillin; TNP-470; Ovalicin; AGM-1470; MetAP; Phosphorylation **82** 23

**Midbrain**; Brain regionalization; Pax; Posterior commissure **82** 29

**Mitosis**; Cell cycle; Cleavage stimulation factor; *Drosophila*; mRNA processing; Polyadenylation **82** 41

**Modifier loci**; Homologous recombination; Gene targeting; Knockout; Genetic background; Inducible gene expression **82** 3

**Mouse embryo**; Dorso-ventral retina axis; Eye morphogenesis; Retina; P450-linked oxidase; CYP26; Aldehyde dehydrogenase; Retinaldehyde; AHD2; Retinoic acid **82** 119

**Mouse**; Branchial arches; Cartilage; CYP26; Expression; In situ; Mesoderm; Olfactory placode; Retina; Retinoid; Uterine crypt; *Xenopus*; P450 **82** 205

**mRNA processing**; Cell cycle; Cleavage stimulation factor; *Drosophila*; Mitosis; Polyadenylation **82** 41

**msx-1**; BMP-4; Noggin; Chordin; FGF-8; Neural crest; Neural plate; Hensen's node; Organizer **82** 51

**Muscle patterning**; Shh; Chick; Limb bud **82** 151

**Mutagenesis**; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression **82** 171

**Neural crest**; BMP-4; Noggin; Chordin; FGF-8; Neural plate; Hensen's node; Organizer; msx-1 **82** 51

**Neural crest**; Chick embryo; Primitive streak; Ectoderm; Mesoderm; Endoderm; Neural fold; Neural tube; Somites; Gastrulation; Neurulation; Heat shock protein; Hsc70; Chaperone **82** 199

**Neural development**; *Glial Cells Missing*; Glia; Transcription; Determination **82** 141

**Neural fold**; Chick embryo; Primitive streak; Ectoderm; Mesoderm; Endoderm; Neural tube; Neural crest; Somites; Gastrulation; Neurulation; Heat shock protein; Hsc70; Chaperone **82** 199

**Neural plate**; BMP-4; Noggin; Chordin; FGF-8; Neural crest; Hensen's node; Organizer; msx-1 **82** 51

**Neural tube**; Chick embryo; Primitive streak; Ectoderm; Mesoderm; Endoderm; Neural fold; Neural crest; Somites; Gastrulation; Neurulation; Heat shock protein; Hsc70; Chaperone **82** 199

**Neurulation**; Chick embryo; Primitive streak; Ectoderm; Mesoderm; Endoderm; Neural fold; Neural tube; Neural crest; Somites; Gastrulation; Heat shock protein; Hsc70; Chaperone **82** 199

**Noggin**; BMP-4; Chordin; FGF-8; Neural crest; Neural plate; Hensen's node; Organizer; msx-1 **82** 51

**Notochord**; SOCS box; WD proteins; SwiP; Sonic hedgehog; Somites; Limb buds; Feather buds; Gut; Chick embryo **82** 79

**Nuclear receptors**; Competence; Ecdysone; *Drosophila* **82** 131

**Olfactory placode**; Branchial arches; Cartilage; CYP26; Expression; In situ; Mesoderm; Mouse; Retina; Retinoid; Uterine crypt; *Xenopus*; P450 **82** 205

**Organizer**; BMP-4; Noggin; Chordin; FGF-8; Neural crest; Neural plate; Hensen's node; msx-1 **82** 51

***otx***; Ascidian; Mesoendoderm; Anterior neuroectoderm; Specification; Induction **82** 67

**OTX2**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**Ovalicin**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2$\alpha$; p67; zf30C; MetAP-2; MAP2; GCN2; PKR; HRI; Eukaryotic initiation factor; dTAF$_{II}$30$\beta$; Fumagillin; TNP-470; AGM-1470; MetAP; Phosphorylation **82** 23

**P450**; Branchial arches; Cartilage; CYP26; Expression; In situ; Mesoderm; Mouse; Olfactory placode; Retina; Retinoid; Uterine crypt; *Xenopus* **82** 205

**P450-linked oxidase**; Dorso-ventral retina axis; Eye morphogenesis; Retina; CYP26; Aldehyde dehydrogenase; Retinaldehyde; AHD2; Retinoic acid; Mouse embryo **82** 119

**p67**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2$\alpha$; zf30C; MetAP-2; MAP2; GCN2; PKR; HRI; Eukaryotic initiation factor; dTAF$_{II}$30$\beta$; Fumagillin; TNP-470; Ovalicin; AGM-1470; MetAP; Phosphorylation **82** 23

**Paraxial mesoderm**; Basic helix-loop-helix transcription factor; Segmentation; *Xenopus laevis* **82** 191

**Paraxial mesoderm**; Hoxa gene expression; Transposition; Spinal ganglia **82** 109

**Pax**; Brain regionalization; Posterior commissure; Midbrain **82** 29

**PHD domain**; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; SET domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

**Phosphorylation**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2$\alpha$; p67; zf30C; MetAP-2; MAP2; GCN2; PKR; HRI; Eukaryotic initiation factor; dTAF$_{II}$30$\beta$; Fumagillin; TNP-470; Ovalicin; AGM-1470; MetAP **82** 23

**Photoreceptors**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Development **82** 165

**PKR**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2$\alpha$; p67; zf30C; MetAP-2; MAP2; GCN2; HRI; Eukaryotic initiation factor; dTAF$_{II}$30$\beta$; Fumagillin; TNP-470; Ovalicin; AGM-1470; MetAP; Phosphorylation **82** 23

**Placenta**; Imprinting; Trophoblast; In situ hybridization; Allele-specific; Alternative splicing **82** 195

**Polyadenylation**; Cell cycle; Cleavage stimulation factor; *Drosophila*; Mitosis; mRNA processing **82** 41

***Polycomb***; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

**Polycomb group**; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; ALL-1; ALR; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

**Posterior commissure**; Brain regionalization; Pax; Midbrain **82** 29

**Primitive streak**; Chick embryo; Ectoderm; Mesoderm; Endoderm; Neural fold; Neural tube; Neural crest; Somites; Gastrulation; Neurulation; Heat shock protein; Hsc70; Chaperone **82** 199

**Promoter**; Gene; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**Receptor tyrosine kinase**; *Drosophila*; Enhancers; *Derailed* **82** 181

**Regulation**; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

**Retina**; Branchial arches; Cartilage; CYP26; Expression; In situ; Mesoderm; Mouse; Olfactory placode; Retinoid; Uterine crypt; *Xenopus*; P450 **82** 205

**Retina**; Dorso-ventral retina axis; Eye morphogenesis; P450-linked oxidase; CYP26; Aldehyde dehydrogenase; Retinaldehyde; AHD2; Retinoic acid; Mouse embryo **82** 119

**Retina**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Photoreceptors; Development **82** 165

**Retinaldehyde**; Dorso-ventral retina axis; Eye morphogenesis; Retina; P450-linked oxidase; CYP26; Aldehyde dehydrogenase; AHD2; Retinoic acid; Mouse embryo **82** 119

**Retinoblastoma**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**Retinoic acid**; Dorso-ventral retina axis; Eye morphogenesis; Retina; P450-linked oxidase; CYP26; Aldehyde dehydrogenase; Retinaldehyde; RALDH2; AHD2; Mouse embryo **82** 119

**Retinoid**; Branchial arches; Cartilage; CYP26; Expression; In situ; Mesoderm; Mouse; Olfactory placode; Retina; Uterine crypt; *Xenopus*; P450 **82** 205

**Segmentation**; Basic helix-loop-helix transcription factor; Paraxial mesoderm; *Xenopus laevis* **82** 191

**Serine-threonine kinase**; *C. elegans*; Cell cycle; Chromosome segregation **82** 95

**SET domain**; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

**Shh**; Chick; Limb bud; Muscle patterning **82** 151

**Silencing**; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

**SOCS box**; WD proteins; SwiP; Sonic hedgehog; Somites; Limb buds; Feather buds; Gut; Chick embryo; Notochord **82** 79

**Somite**; Zebrafish; BMP; BMP receptor; CNS **82** 219

**Somites**; Chick embryo; Primitive streak; Ectoderm; Mesoderm; Endoderm; Neural fold; Neural tube; Neural crest; Gastrulation; Neurulation; Heat shock protein; Hsc70; Chaperone **82** 199

**Somites**; SOCS box; WD proteins; SwiP; Sonic hedgehog; Limb buds; Feather buds; Gut; Chick embryo; Notochord **82** 79

**Sonic hedgehog**; SOCS box; WD proteins; SwiP; Somites; Limb buds; Feather buds; Gut; Chick embryo; Notochord **82** 79

**Specification**; Ascidian; *otx*; Mesoendoderm; Anterior neuroectoderm; Induction **82** 67

**Spinal ganglia**; Hoxa gene expression; Transposition; Paraxial mesoderm **82** 125

**Starfish embryos**; *Brachyury* gene; *ApBra*; Expression pattern; Embryos and larvae; Echinoderms and hemichordates **82** 185

**Supershift**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**SwiP**; SOCS box; WD proteins; Sonic hedgehog; Somites; Limb buds; Feather buds; Gut; Chick embryo; Notochord **82** 79

**TNP-470**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2$\alpha$; p67; zf30C; MetAP-2; MAP2; GCN2; PKR; HRI; Eukaryotic initiation factor; $dTAF_{II}30\beta$; Fumagillin; Ovalicin; AGM-1470; MetAP; Phosphorylation **82** 23

**Transcript**; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; SET domain; PHD domain; Embryonic expression; Larval expression; Mutagenesis **82** 171

**Transcription**; *Drosophila*; Chromatin; Chromosomal proteins; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

**Transcription**; *Glial Cells Missing*; Glia; Determination; Neural development **82** 141

**Transcriptional regulation**; Gene; Promoter; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**Transfection**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**Transposition**; Hoxa gene expression; Spinal ganglia; Paraxial mesoderm **82** 109

***Trithorax***; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

**Trithorax group**; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Polycomb group; ALL-1; ALR; TRR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

**Trophoblast**; Imprinting; Placenta; In situ hybridization; Allele-specific; Alternative splicing **82** 195

**TRR**; *Drosophila*; Chromatin; Chromosomal proteins; Transcription; Regulation; Maintenance; Silencing; *Trithorax*; *Polycomb*; Trithorax group; Polycomb group; ALL-1; ALR; SET domain; PHD domain; Transcript; Embryonic expression; Larval expression; Mutagenesis **82** 171

**Uterine crypt**; Branchial arches; Cartilage; CYP26; Expression; In situ; Mesoderm; Mouse; Olfactory placode; Retina; Retinoid; *Xenopus*; P450 **82** 205

**Vertebrate**; Gene; Promoter; Transcriptional regulation; HeLa; WERI-Rb1; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**WD proteins**; SOCS box; SwiP; Sonic hedgehog; Somites; Limb buds; Feather buds; Gut; Chick embryo; Notochord **82** 79

**WERI-Rb1**; Gene; Promoter; Transcriptional regulation; HeLa; Retinoblastoma; Gel retardation; Supershift; Immunohistochemistry; Transfection; Human; Vertebrate; *Drosophila*; Interphotoreceptor retinoid binding protein; IRBP; OTX2; CRX; Homeodomain; Bicoid; Eye; Retina; Photoreceptors; Development **82** 165

**XEH1**; Hyaluronan; Hyaluronidase; Glycosaminoglycan; DG42; Hyaluronan synthase; Xenopus; Embryo; In situ hybridization **82** 213

***Xenopus***; Branchial arches; Cartilage; CYP26; Expression; In situ; Mesoderm; Mouse; Olfactory placode; Retina; Retinoid; Uterine crypt; P450 **82** 205

**Xenopus**; Hyaluronan; Hyaluronidase; Glycosaminoglycan; DG42; Hyaluronan synthase; XEH1; Embryo; In situ hybridization **82** 213

***Xenopus laevis***; Basic helix-loop-helix transcription factor; Paraxial mesoderm; Segmentation **82** 191

**Zebrafish**; BMP; BMP receptor; Somite; CNS **82** 219

**zf30C**; *Drosophila melanogaster*; Methionine aminopeptidase; eIF2$\alpha$; p67; MetAP-2; MAP2; GCN2; PKR; HRI; Eukaryotic initiation factor; dTAF$_{II}$30$\beta$; Fumagillin; TNP-470; Ovalicin; AGM-1470; MetAP; Phosphorylation **82** 23